SHOUT
SHARE
IT

179-208 cop. - RBS. 4/10/42

#192 - 30th Ann. Rpt. 1918
#198 - 31/32 Ann. Rpts 1919/1920
#203 - 33d Ann. Rpt 1921
#208 - 34th Ann. Rpt. 1922

OK - RBS 4/10/42

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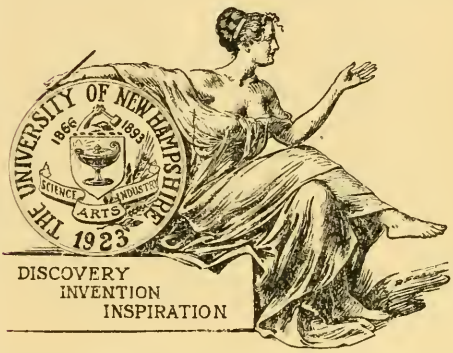

EXPERIMENT STATION LIBRARY

CLASS ~~630.73~~
NUMBER ~~N53~~ ~~179-208~~
ACCESSION 4798 ~~c.3~~

RESULTS OF SEED TESTS

Made July 1, 1919, to July 1, 1920

During the past year 563 samples of seeds have been analyzed for purity and germination. The total number of samples collected by agents employed and directed by the Commissioner of Agriculture was 772. Of this number, 390 were not guaranteed for purity and germination and consequently have not been analyzed or reported in this bulletin. For their own personal use farmers and other individuals have sent in for analysis 185 samples.

In presenting herewith the results of findings relative to the official samples use is made of the customary allowances for variations in tests. A difference of 5 per centum is satisfactory in germination and for purity the following "tolerance" formula is used. In this formula "T" stands for the variation allowed and "P" for the percentage of purity stated. $T=\frac{2\,(.1+100-P)}{10}$. For example, a sample of seed guaranteed 90% pure and 90% germinable would be considered satisfactory if our findings showed a purity of 88.0 and a germination of 85.5.

We realize that many factors enter into the processes of seed testing which may cause variation in results obtained. Under the most careful and painstaking methods of sampling slight differences may occur; analytical errors may be made in the tedious job of separating and weighing the different lots of seeds, and small errors are always easy to overlook; moisture and temperature variations may often affect the viability of samples enclosed in small envelopes while waiting to be tested; finally, molds and temperature fluctuations in the germinator, after the most rigorous precautions have been observed, may result in very slight differences. For these reasons we believe the analyst should recognize his limitations and be more than willing to allow some variations, and to attach little significance to occasional small discrepancies. The goal to be attained is practical, not analytical, results. It is only when the slight variations are consistently repeated or extreme differences are noted that the dealer's good intentions should be seriously challenged.

Whenever the first test on a sample of seed could not be

marked "Satisfactory," as explained in a later paragraph, our policy in every case has been to retest. If the second test showed any considerable variation from the first, a third would be made; otherwise, the average of the two tests would be reported. In this way an endeavor has been made to eliminate any gross errors, or results of abnormal conditions.

For several years past our reports have been marked "Above" when our findings have been better than the guarantee, "Satisfactory" when our findings came within the variations previously suggested, and "Below" when the seed could not be classified under either of the two preceding terms. The first two words appear to serve their purpose, but the last one is hardly explicit enough. The dealer guaranteeing seed at 90% germination, for example, which tests 85 per cent and would have to be marked "Below" is hardly in the same class with the dealer who makes a similar guarantee for seed which only germinates 25 per cent. For this reason, seeds which have previously been marked "Below" will be accompanied in this report by actual figures for germination or purity as the case may be.

SEED EXAMINATION, 1920

Sample No.	Kind of Seed, Brand, Name and Address of Dealer.	Purity.		Germination.	
		Found.	Guaranteed.	Found.	Guaranteed.
2540	ALFALFA (*Eureka*) ..... C. L. Jenness, Dover, N. H.	A	99.75	34.5	95
2693	ALFALFA ..... John B. Varick Co., Manchester, N. H.	A	96	A	80
2702	ALFALFA (*Grimm*) ..... John B. Varick Co., Manchester, N. H.	A	99	S	89
2527	ALFALFA (*Eureka*) ..... E. T. Willson, Farmington, N. H.	A	99	88.5	95
2515	ALSIKE CLOVER ..... Berry & Shorey, Rochester, N. H.	A	95.5	77	90
2603	ALSIKE CLOVER ..... J. P. Boucher, Groveton, N. H.	A	89	A	83
2758	ALSIKE CLOVER ..... Boynton & Ellis, Claremont, N. H.	A	84	A	82
2469	ALSIKE CLOVER (*Pan Amer.*) ..... F. P. Brown, Whitefield, N. H.	S	97	A	90
2561	ALSIKE CLOVER ..... C. W. Coolidge, Jr., Henniker, N. H.	A	96	A	90
2806	ALSIKE CLOVER ..... J. Cushing Company, Keene, N. H.	95.7	99.5	A	92
2618	ALSIKE CLOVER (*Pan Amer.*) ..... Edson & Kinne, Littleton, N. H.	A	97	A	90
2549	ALSIKE CLOVER ..... W. D. Fogg, Hancock, N. H.	A	97.5	S	85
2536	ALSIKE CLOVER ..... Eugene Foss, Rochester, N. H.	A	99.5	A	90
2823	ALSIKE CLOVER (*White Mtn.*) ..... D. A. & H. D. Gee, Winchester, N. H.	A	98.5	A	92
2732	ALSIKE CLOVER ..... L. W. Gile, Newport, N. H.	A	97	A	90
2786	ALSIKE CLOVER (*Pan Amer.*) ..... Goodwin Bros., East Jaffrey, N. H.	A	97	A	90
2648	ALSIKE CLOVER ..... Haseltine & Caldwell, Milford, N. H.	A	97	83.5	90
2725	ALSIKE CLOVER (*White Mtn.*) ..... C. M. Hildreth & Son, Lebanon, N. H.	A	98.5	S	92
2439	ALSIKE CLOVER (*XX*) ..... Holbrook Grocery Co., Woodsville, N. H.	A	84	A	82
2459	ALSIKE CLOVER (*White Mtn.*) ..... Holbrook Grocery Co., Woodsville, N. H.	S	98	A	92
2472	ALSIKE CLOVER (*XXX*) ..... Holbrook Grocery Co., Woodsville, N. H.	A	93	A	88
2822	ALSIKE CLOVER (*White Mtn.*) ..... Holbrook Grocery Co., Woodsville, N. H.	A	98.5	S	92
2617	ALSIKE CLOVER (*Pan Amer.*) ..... Jackson, Durgin Co., Littleton, N. H.	A	97	A	90
2628	ALSIKE CLOVER (*Ace*) ..... C. H. Jameson, Colebrook, N. H.	A	94	S	85
2539	ALSIKE CLOVER (*Pan Amer.*) ..... C. L. Jenness, Dover, N. H.	A	97	19.5	90
2718	ALSIKE CLOVER (*Ace*) ..... Lewis Bros., Lebanon, N. H.	A	94	A	90
2679	ALSIKE CLOVER ..... Manchester Hdw. Co., Manchester, N. H.	A	93.5	S	95.6
2655	ALSIKE CLOVER ..... J. J. Moreau & Son, Manchester, N. H.	A	90	86	..
2419	ALSIKE CLOVER (*Pan Amer.*) ..... Moulton & Clark, Lisbon, N. H.	A	97	A	90
2481	ALSIKE CLOVER (*Pan Amer.*) ..... Moulton & Clark, Lisbon, N. H.	S	97	A	90
2513	ALSIKE CLOVER (*Dickinson*) ..... F. W. Neal, Dover, N. H.	A	98	A	85
2818	ALSIKE CLOVER (*XXX*) ..... A. D. Potter & Co., Winchester, N. H.	A	93	A	88
2723	ALSIKE CLOVER ..... Rand, Ball & King, Claremont, N. H.	A	97.5	95	..

A—Above
S—Satisfactory.

SEED EXAMINATION, 1920—*Continued.*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer.	Purity.		Germination.	
		Found.	Guaranteed.	Found.	Guaranteed.
2525	ALSIKE CLOVER (*Pan Amer.*) ..... Somersworth Grain Co., Somersworth, N. H.	A	97	75.5	90
2611	ALSIKE CLOVER (*Imperator*) ..... F. B. Spaulding Co., Lancaster, N. H.	A	97	A	90
2789	ALSIKE CLOVER (*Ace*) ..... F. A. Spaulding, Walpole, N. H.	A	94	A	90
2846	ALSIKE CLOVER ..... C. P. Stevens, Franklin, N. H.	A	94	A	90
2835	ALSIKE CLOVER ..... Thompson & Hoague, Concord, N. H.	S	96.2	A	90
2706	ALSIKE CLOVER ..... John B. Varick Co., Manchester, N. H.	A	94	S	90
2501	ALSIKE CLOVER (*Pan Amer.*) ..... E T. Willson, Farmington, N. H.	A	97.5	S	90
2826	BARLEY (*6-row*) ..... Holbrook Grocery Co., Keene, N. H.	A	99	A	96
2532	BARLEY (*6-row*) ..... M. & C. Grocery, Dover, N. H.	A	98	A	96
2677	BARLEY (*6-row*) ..... Manchester Hdw. Co., Manchester, N. H.	S	99	S	96
2545	BARLEY (*6-row*) ..... J. H. Seavey, Dover, N. H.	A	98	A	96
2476	BARLEY (*2-row*) ..... Frank Smith Co., Lancaster, N. H.	93	98	A	90
2839	BARLEY ..... Thompson & Hoague, Concord, N. H.	A	99	A	97
2692	BARLEY (*6-row*) ..... John B. Varick Co., Manchester, N. H.	A	97	S	92
2810	BEET (*Golden Tankard*) ..... F. A. Spaulding, Walpole, N. H.	A	95	71	95
2816	BEET (*Early Blood*) ..... F. A. Spaulding, Walpole, N. H.	A	95	S	95
2535	BUCKWHEAT (*Jap.*) ..... Eugene Foss, Rochester, N. H.	A	98	A	90
2660	BUCKWHEAT (*Jap.*) ..... Hill Hdw. & Paint Co., Nashua, N. H.	A	98	A	90
2682	BUCKWHEAT (*Jap.*) ..... Manchester Hdw. Co., Manchester, N. H.	S	99.85	A	92
2700	BUCKWHEAT (*Jap.*) ..... John B. Varick Co., Manchester, N. H.	S	99	A	96
2614	CANADA PEAS ..... C. H. Jameson, Colebrook, N. H.	A	93	A	93
2613	CANADA PEAS ..... F. B. Spaulding, Lancaster, N. H.	80	95	82.5	90
2516	CORN (*Early Wonder*) ..... Freeman Carson, Rochester, N. H.	S	99.3	A	90
2735	CORN (*Eureka*) ..... L. W. Gile, Newport, N. H.	A	98	A	90
2788	CORN (*Leaming*) ..... Goodwin Bros., East Jaffrey, N. H.	A	98	A	90
2665	CORN (*Excelsior*) ..... Kendall & Wilkins, Milford, N. H.	A	98	A	90
2666	CORN (*Leaming*) ..... Kendall & Wilkins, Milford, N. H.	A	98	78.5	90
2667	CORN (*Sanford*) ..... Kendall & Wilkins, Milford, N. H.	A	98	76.5	90
2661	CORN (*Early Wonder*) ..... J. J. Moreau & Son, Manchester, N. H.	S	99.2	S	89
2720	CORN (*Sanford*) ..... Rand. Ball & King, Claremont, N. H.	A	88	41	90
2722	CORN (*Bloody Butcher*) ..... Rand. Ball & King, Claremont, N. H.	A	98	72.5	90
2596	CORN (*Leaming Ensilage*) ..... I. C. Richardson, Littleton, N. H.	A	98	A	90

A—Above

S—Satisfactory.

SEED EXAMINATION, 1920—*Continued.*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer.	Purity.		Germination.	
		Found.	Guaranteed.	Found.	Guaranteed.
2641*	CORN (*Excelsior Ensilage*) ..... I. C. Richardson, Littleton, N. H.	A	98	76.7	90
2449	CORN (*Sanford*) ..... Frank Smith Co., Lancaster, N. H.	A	98	A	90
2690	CORN (*Eureka Ensilage*)..... John B. Varick Co., Manchester, N. H.	99+	..	67.5	93
2691	CORN (*Pride of the North, Ensilage*).... John B. Varick Co., Manchester, N. H.	99+	..	74.5	98
2698	CORN (*Leaming*) ..... John B. Varick Co., Manchester, N. H.	99+	..	A	94
2477	CRIMSON CLOVER ..... Frank Smith Co., Lancaster, N. H.	95	97	A	80
2708	CRIMSON CLOVER ..... John B. Varick Co., Manchester, N. H.	A	97	52	95
2534	KENTUCKY BLUE GRASS ..... C. L. Jenness, Dover, N. H.	A	84	0	65
2796	MILLET (*Hungarian*) ..... Abbott Grocery Co., Keene, N. H.	A	98.7	A	80
2798	MILLET (*Jap.*) (*Old Home*) ..... Abbott Grocery Co., Keene, N. H.	A	96	S	93
2442	MILLET (*Jap.*) ..... F. P. Brown, Whitefield, N. H.	96	97	S	90
2506	MILLET (*Jap.*) ..... Freeman Carson, Rochester, N. H.	A	97.2	S	80
2637	MILLET (*Jap.*) ..... Clark & Cheeney, No. Stratford, N. H.	S	98	S	98
2629	MILLET (*Hungarian*) ..... Clark & Cheeney, No. Stratford, N. H.	A	98	S	83
2553	MILLET (*Hungarian*) ..... C. W. Coolige, Jr., Henniker, N. H.	A	98	A	81
2563	MILLET (*Jap.*) ..... C. W. Coolige, Jr., Henniker, N. H.	A	96	74	90
2565	MILLET (*Hungarian*) ..... W. E. Cram, Antrim, N. H.	A	98	A	82
2808	MILLET (*Hungarian*) ..... J. Cushing Co., Keene, N. H.	A	98	S	90
2804	MILLET (*Old Home*) ..... J. Cushing Co., Keene, N. H.	A	96	S	98
2555	MILLET ..... W. D. Fogg, Hancock, N. H.	S	97	A	87
2503	MILLET (*Jap*) ..... Eugene Foss, Rochester, N. H.	A	98	A	90
2733	MILLET (*Hungarian*) ..... L. W. Gile, Newport, N. H.	A	97	A	85
2616	MILLET (*Hungarian*) ..... John Goebel & Co., Berlin, N. H.	S	98.34	A	90
2567	MILLET (*Hungarian*) ..... Goodnow & Derby, Peterboro, N. H.	A	99.3	S	92
2566	MILLET (*Jap*) ..... Goodnow & Derby, Peterboro, N. H.	A	96.53	90.5	98
2792	MILLET ..... Goodwin Bros., East Jaffrey, N. H.	S	97	S	95
2793	MILLET (*Jap*) ..... Goodwin Bros., East Jaffrey, N. H.	A	97	A	85
2649	MILLET (*Jap*) ..... Haseltine & Caldwell, Milford, N. H.	A	98	S	90
2645	MILLET (*Hungarian*) ..... Hill Hdw. & Paint Co., Nashua, N. H.	A	97	A	85
2643	MILLET (*Jap*) ..... Hill Hdw. & Paint Co., Nashua, N. H.	A	97	A	85
2436	MILLET (*Hungarian*) ..... Holbrook Grocery Co., Woodsville, N. H.	A	97	A	80
2843	MILLET (*Hungarian*) ..... Hopkins Bros. & Belcher, Greenfield, N. H.	S	99.3	S	92

*Too small sample for duplicate test.
A—Above
S—Satisfactory.

SEED EXAMINATION, 1920—*Continued.*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer.	Purity.		Germination.	
		Found.	Guaranteed.	Found.	Guaranteed.
2852	MILLET (*Jap*) ..... Hopkins Bros. & Belcher, Greenfield, N. H.	A	97.2	S	90
2507	MILLET (*Hungarian*) ..... C. L. Jenness, Dover, N. H.	A	97	45.5	90
2537	MILLET (*Jap*) ..... C. L. Jenness, Dover, N. H.	A	99	A	90
2668	MILLET (*Jap*) ..... Kendall & Wilkins, Milford, N. H.	A	97	S	85
2716	MILLET (*Hungarian*) ..... Lewis Bros., Lebanon, N. H.	A	97.42	S	84.5
2632	MILLET (*Hungarian*) ..... E. Libby & Sons Co., Gorham, N. H.	A	97	78	90
2511	MILLET (*Hungarian*) ..... J. A. Maddox, Milton Mills, N. H.	A	97	A	80
2680	MILLET (*Hungarian*) ..... Manchester Hdw. Co., Manchester, N. H.	A	98.7	70	80
2662	MILLET (*Jap*) ..... J. J. Moreau & Son, Manchester, N. H.	A	90	90	97.2
2421	MILLET (*Jap*) ..... L. A. Moulton, Ossipee, N. H.	99	..	S	75
2446	MILLET (*Hungarian*) ..... Moulton & Clark, Lisbon, N. H.	A	97	A	87
2438	MILLET (*Jap*) ..... Moulton & Clark, Lisbon, N. H.	96	97	A	85
2427	MILLET (*Jap*) ..... Fred Parker, Lisbon, N. H.	96.2	98	A	90
2674	MILLET (*Jap*) ..... Wm. F. Peel, Nashua, N. H.	97.8	99	A	90
2714	MILLET ..... F. P. Rowell, Newport, N. H	A	90	S	80
2541	MILLET (*Hungarian*) ..... J. H. Seavey, Dover, N. H.	A	98	S	81
2548	MILLET (*Jap.*) (*33111*) ..... J. H. Seavey, Dover, N. H.	A	98.12	75	83
2828	MILLET (*Hungarian*) ..... Shepard Bros., Franklin, N. H.	A	96	S	98
2424	MILLET (*Hungarian*) ..... Frank Smith Co., Lancaster, N. H.	S	98	A	90
2615	MILLET (*Jap.*) ..... F. B. Spaulding Co., Lancaster, N. H.	94.6	98	A	90
2834	MILLET (*Hungarian*) ..... C. P. Stevens, Franklin, N. H.	A	97	A	80
2811	MILLET (*Hungarian*) ..... H. W. Taylor, Hinsdale, N. H.	S	99	S	97
2805	MILLET (*Jap.*) ..... H. W. Taylor, Hinsdale, N. H.	A	90	S	90
2853	MILLET (*Golden*) ..... Thompson & Hoague, Concord, N. H.	A	99.2	S	80
2651	MILLET (*Hungarian*) ..... Thompson & Hoague, Concord, N. H.	A	98.3	A	80
2696	MILLET (*Golden*) ..... John B. Varick Co., Manchester, N. H.	S	98	76	90
2707	MILLET (*Hungarian*) ..... John B. Varick Co., Manchester, N. H.	A	98	A	82
2689	MILLET (*Jap.*) ..... John B. Varick Co., Manchester, N. H.	A	97	A	80
2524	MILLET (*Hungarian*) ..... J. D. Willey & Son, Milton, N. H.	A	98.7	A	80
2526	MILLET (*Hungarian*) ..... E. T. Willson, Farmington, N. H.	A	96	A	85
2523	MILLET (*Jap*) ..... E. T. Willson, Farmington, N. H.	A	96	S	85
2557	OATS (*White Mtn.*) ..... P. E. Belisle, Hillsborough, N. H.	S	99	A	97

A—Above
S—Satisfactory.

SEED EXAMINATION, 1920—*Continued.*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer.	Purity.		Germination.	
		Found.	Guaranteed.	Found.	Guaranteed.
2468	OATS ..... F. P. Brown Whitefield, N. H.	S	99	A	97
2512	OATS (*High Grade*) ..... Fred M. Bunker Est., Dover, N. H.	A	99	A	97
2855	OATS ..... Walter S. Dole, Concord, N. H.	A	99	S	97
2638	OATS (*Northern White*) ..... K. D. Edwards, Colebrook, N. H.	95	98	A	95
2529	OATS (*Swedish*) ..... Eugene Foss, Rochester, N. H.	A	98	A	90
2812	OATS (*Swedish*) ..... Goodwin Bros., East Jaffrey, N. H.	A	98	A	90
2728	OATS (*White Mtn.*) ..... C. W. Hildreth & Son, Lebanon, N. H.	A	99	S	97
2827	OATS (*White Mtn.*) ..... Holbrook Grocery Co., Keene, N. H.	A	99	S	97
2762	OATS (*Hygrade*) ..... A. R. Johnson & Son, Potter Place, N. H.	A	99	91.5	97
2663	OATS (*White Mtn.*) ..... O. C. Lombard, Short Falls, N. H.	A	99	S	97
2686	OATS (*Canada White*) ..... Manchester Hdw. Co., Manchester, N. H.	A	97.5	A	95
2542	OATS ..... J. H. Seavey, Dover, N. H.	A	98	A	90
2830	OATS (*Welcome*) ..... Shepard Bros., Franklin, N. H.	A	99	S	98
2636	OATS (*Extra Fancy Seed*) ..... H. G. Shoff, No. Stratford, N. H.	S	99	S	97
2450	OATS (*Silver Nuel*) ..... Frank Smith Co., Lancaster, N. H.	S	99.3	S	98
2813	OATS (*White Mtn.*) ..... H. W. Taylor, Hinsdale, N. H.	A	99	S	97
2709	OATS (*Finest*) ..... John B. Varick Co., Manchester, N. H.	A	98	S	95
2560	OATS ..... Walbridge & Taylor, Peterboro, N. H.	99.7	..	90.5	100
2521	ORCHARD GRASS ..... E. T. Willson, Farmington, N. H.	A.	65	38.5	95
2800	RED CLOVER (*Ace*) ..... Abbott Grocery Co., Keene, N. H.	A	98.7	A	85
2531	RED CLOVER ..... Berry & Shorey, Rochester, N. H.	A	98.76	A	90
2457	RED CLOVER ..... M. B. Blaisdell, Wolfeboro, N. H.	98.8	99.5	A	92.25
2757	RED CLOVER ..... Boynton & Ellis, Claremont, N. H.	A	94	A	84
2759	RED CLOVER (*White Mtn.*) ..... Boynton & Ellis, Claremont, N. H.	A	99.50	A	92
2420	RED CLOVER ..... F. P. Brown, Whitefield, N. H.	A	98	A	90
2514	RED CLOVER (*Holway*) ..... Fred M. Bunker Est., Dover, N. H.	A	98	A	90
2768	RED CLOVER ..... D. A. Chase & Son, Sunapee, N. H.	A	90	S	97
2552	RED CLOVER ..... C. W. Coolidge, Jr., Henniker, N. H.	A	97	S	90
2556	RED CLOVER ..... W. E. Cram, Antrim, N. H.	A	97	A	90
2837	RED CLOVER ..... Walter S. Dole, Concord, N. H.	A	98	A	92
2794	RED CLOVER (*XX*) ..... G. W. Eames & Son, Keene, N. H.	A	95	A	84
2619	RED CLOVER (*Fancy*) ..... Edson & Kinne, Littleton, N. H.	96.4	98	A	90

A—Above
S—Satisfactory.

SEED EXAMINATION, 1920—*Continued.*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer.	Purity.		Germination.	
		Found.	Guaranteed.	Found.	Guaranteed.
2594	RED CLOVER (*Fancy*) ..... Edson & Kinne, Littleton, N. H.	97.6	99.5	A	92
2425	RED CLOVER (*Imperator*) ..... N. G. English, Lisbon, N. H.	A	97	A	88
2518	RED CLOVER (*Pan Amer.*) ..... Eugene Foss, Rochester, N. H.	A	98	A	90
2840	RED CLOVER (*Pan Amer.*) ..... Franklin Grocery Co., Franklin, N. H.	A	97	A	90
2825	RED CLOVER (*White Mtn.*) ..... D. A. & H. D. Gee, Winchester, N. H.	A	99	A	94
2754	RED CLOVER ..... L. W. Gile, Newport, N. H.	A	98	A	90
2787	RED CLOVER (*Pan Amer.*) ..... Goodwin Bros., East Jaffrey, N. H.	A	98	S	98
2631	RED CLOVER ..... C. G. Hamlin, Gorham, N. H.	A	99	A	96
2727	RED CLOVER (*White Mtn.*)..... C. W. Hildreth, Lebanon, N. H.	A	99.5	A	92
2453	RED CLOVER (*XX*) ..... Holbrook Grocery Co., Woodsville, N. H.	A	95	A	84
2474	RED CLOVER ..... Holbrook Grocery Co., Woodsville, N. H.	92.5	98	A	89
2480	RED CLOVER (*White Mtn.*) ..... Holbrook Grocery Co., Woodsville, N. H.	97.8	99.5	A	92
2821	RED CLOVER (*White Mtn.*) ..... Holbrook Grocery Co., Keene, N. H.	A	99.56	S	92
2844	RED CLOVER (*Ace*) ..... Hopkins Bros. & Belcher, Greenfield, N. H.	A	97	A	85
2642	RED CLOVER (*Pan Amer.*) ..... Jackson, Durgin Co., Littleton, N. H.	95.4	98	S	90
2626	RED CLOVER (*Ace*) ..... C. H. Jameson, Colebrook, N. H.	A	95	A	85
2508	RED CLOVER (*White Mtn.*) ..... Ann Jenkins & Co., Rochester, N. H.	A	99.5	A	92
2519	RED CLOVER (*Eureka*) ..... C. L. Jenness, Dover, N. H.	A	99	15	95
2671	RED CLOVER ..... Kendall & Wilkins, Milford, N. H.	A	98	S	90
2435	RED CLOVER ..... C. C. King Co., Whitefield, N. H.	95.6	99	S	98
2715	RED CLOVER (*Ace*) ..... Lewis Bros., Lebanon, N. H.	A	97	77.5	90
2599	RED CLOVER ..... E. Libby & Son Co., Gorham, N. H.	A	98	A	85
2684	RED CLOVER (*"H" Brand*) ..... Manchester Hdw. Co., Manchester, N. H.	S	97	A	87
2504	RED CLOVER ..... Miller & Rollins, New Durham, N. H.	A	95	A	85
2657	RED CLOVER ..... J. J. Moreau & Son, Manchester, N. H.	97.8	98.5	A	92.7
2465	RED CLOVER ..... L. S. Moulton, Ossipee, N. H.	A	98	A	90
2466	RED CLOVER (*Pan Amer.*) ..... Moulton & Clark, Lisbon, N. H.	91.4	98.5	A	90
2470	RED CLOVER ..... Moulton & Clark, Lisbon, N. H.	94.4	98	A	90
2479	RED CLOVER (*Pan. Amer.*) ..... Moulton & Clark, Lisbon, N. H.	93	98	A	90
2447	RED CLOVER (*Pan. Amer.*) ..... Fred Parker, Lisbon, N. H.	95.6	98	A	90
2819	RED CLOVER (*XXX*) ..... A. D. Potter & Co., Winchester, N. H.	A	97	A	89
2497	RED CLOVER ..... Read, Esty Co., Farmington, N. H.	A	90	30	75

A—Above
S—Satisfactory.

SEED EXAMINATION, 1920—*Continued.*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer.	Purity.		Germination.	
		Found.	Guaranteed.	Found.	Guaranteed.
2602	RED CLOVER (*Pan Amer.*) ..... I. C. Richardson, Littleton, N. H.	S	98.5	A	90
2712	RED CLOVER ..... F. P. Rowell, Newport, N. H.	85	98	84	95
2845	RED CLOVER ..... Shepard Bros., Franklin, N. H.	S	97	S	98
2445	RED CLOVER (*Imperator*) ..... Frank Smith Co., Lancaster, N. H.	S	95	A	90
2528	RED CLOVER (*Pan Amer.*) ..... Somersworth Grain Co., Somersworth, N. H.	A	98	A	90
2790	RED CLOVER (*Ace*) ..... F. A. Spaulding, Walpole, N. H.	A	98	A	91
2592	RED CLOVER (*Imperator*) ..... F. B. Spaulding, Lancaster, N. H.	94.3	97	A	90
2639	RED CLOVER (*Pan Amer.*) ..... F. B. Spaulding, Lancaster, N. H.	95.5	98	A	94
2785	RED CLOVER (*White Mtn.*) ..... H. W. Taylor, Hinsdale, N. H.	A	99.5	S	92
2849	RED CLOVER ..... Thompson & Hoague, Concord, N. H.	A	98	A	90
2695	RED CLOVER (*Medium*) ..... John B. Varick Co., Manchester, N. H.	S	97	A	90
2564	RED CLOVER ..... Walbridge & Taylor, Peterboro, N. H.	A	97.5	87	98
2417	RED CLOVER ..... H. H. Wallace, Wolfeboro, N. H.	A	92	87.5	98
2429	RED CLOVER (*Ace*) ..... Webster & Williams, Lisbon, N. H.	A	92	A	90
2738	RED CLOVER ..... F. B. Williams, Enfield, N. H.	S	97	A	90
2462	RED CLOVER ..... Perley Young, Wolfeboro, N. H.	S	97	A	90
2782	RED TOP (*Ace*) ..... Abbott Grocery Co., Keene, N. H.	A	90	79.5	90
2451	RED TOP ..... M. B. Blaisdell, Wolfeboro, N. H.	83.3	92.75	48	80.5
2755	RED TOP ..... Boynton & Ellis, Claremont, N. H.	A	90	69	90
2443	RED TOP (*Pan Amer.*) ..... F. P. Brown, Whitefield, N. H.	A	90	S	90
2487	RED TOP (*Imperial*) ..... Freeman Carson, Rochester, N. H.	A	94.3	S	88
2672	RED TOP (*Fancy*) ..... W. S. Cass, Suncook, N. H.	A	90	81.5	90
2766	RED TOP ..... D. A. Chase & Son, Sunapee, N. H.	A	90	84.5	90
2494	RED TOP ..... C. W. Coolige, Henniker, N. H.	90	94	82	90
2779	RED TOP (*Ace*) ..... J. Cushing Co., Keene, N. H.	A	90	84	90
2775	RED TOP ..... Walter S. Dole, Concord, N. H.	A	90	A	85
2784	RED TOP (*Blue Jay*) ..... G. H. Eames & Son, Keene, N. H.	A	94	69.5	92
2630	RED TOP (*Pan Amer.*) ..... Edson & Kinne, Littleton, N. H.	A	90	68	90
2760	RED TOP ..... J. C. Emmons, Potter Place, N. H.	A	90	S	86
2441	RED TOP (*Pan Amer.*) ..... M. G. English, Lisbon, N. H.	A	90	81	90
2495	RED TOP ..... W. D. Fogg, Hancock, N. H.	A	75	71.5	83
2490	RED TOP (*Pan Amer.*) ..... Eugene Foss, Rochester, N. H.	A	90	S	90

A—Above
S—Satisfactory.

SEED EXAMINATION, 1920—*Continued.*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer.	Purity.		Germination.	
		Found.	Guaranteed.	Found.	Guaranteed.
2771	RED TOP Franklin Grocery Co., Franklin, N. H.	A	90	83.5	90
2664	RED TOP W. F. French, Milford, N. H.	A	90	S	90
2763	RED TOP Frost & Pierce, Claremont, N. H.	A	95	A	85
2776	RED TOP (*White Mtn.*) D. A. & H. D. Gee, Winchester, N. H.	A	95	A	90
2734	RED TOP L. W. Gile, Newport, N. H.	A	90	S	90
2493	RED TOP Goodnow & Derby, Peterboro, N. H.	A	90	83	90
2783	RED TOP (*Pan Amer.*) Goodwin Bros., East Jaffrey, N. H.	A	90	A	90
2729	RED TOP (*White Mtn.*) C. W. Hildreth & Son, Lebanon, N. H.	A	95	A	90
2781	RED TOP (*White Mtn.*) Holbrook Grocery Co., Keene, N. H.	A	95	A	90
2463	RED TOP (*White Mtn.*) Holbrook Grocery Co., Woodsville, N. H.	A	95	S	90
2431	RED TOP (*XX*) Holbrook Grocery Co., Woodsville, N. H.	A	80	76	83
2437	RED TOP (*XXX*) Holbrook Grocery Co., Woodsville, N. H.	A	90	A	86
2773	RED TOP Hopkins Bros. & Belcher, Greenfield, N. H.	A	90	78.5	90
2624	RED TOP (*Pan Amer.*) Jackson, Durgin Co., Littleton, N. H.	A	90	78	90
2483	RED TOP (*Eureka*) C. L. Jenness, Dover, N. H.	A	90	57	90
2534	RED TOP Kendall & Wilkins, Milford, N. H.	A	90	S	90
2719	RED TOP Lewis Bros., Lebanon, N. H.	A	94.9	A	89.5
2491	RED TOP J. A. Maddox, Milton Mills, N. H.	A	90	77.5	90
2687	RED TOP ("*H*" *Brand*) Manchester Hdw. Co., Manchester, N. H.	A	90	82	90
2492	RED TOP (*Pine Tree*) Miller & Rollins, New Durham, N. H.	S	90	81	90
2656	RED TOP (*Fancy*) J. J. Moreau & Son, Manchester, N. H.	A	90	S	90
2426	RED TOP (*Pan Amer.*) Moulton & Clark, Lisbon, N. H.	A	90	S	90
2484	RED TOP F. W. Neal, Dover, N. H.	A	85	76	85
2448	RED TOP (*Pan Amer.*) Fred Parker, Lisbon, N. H.	A	90	S	90
2777	RED TOP (*Blue Jay*) A. D. Potter & Co., Winchester, N. H.	A	94	72	92
2778	RED TOP (*XX*) A. D. Potter & Co., Winchester, N. H.	85.5	..	S	80
2724	RED TOP Rand, Ball & King, Claremont, N. H.	A	90	S	90
2489	RED TOP Read & Estey, Farmington, N. H.	A	90	72.5	86
2623	RED TOP (*Pan Amer.*) I. C. Richardson, Littleton, N. H.	A	90	82	90
2625	RED TOP (*Ace*) A. L. Roberts, Conway, N. H.	A	90	76	90
2486	RED TOP (*Ace*) J. H. Seavey, Dover, N. H.	A	90	69	90
2772	RED TOP Shepard Bros., Franklin, N. H.	S	98	84.5	90

A—Above
S—Satisfactory.

SEED EXAMINATION, 1920—*Continued.*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer.	Purity.		Germination.	
		Found.	Guaranteed.	Found.	Guaranteed.
2418	RED TOP ..... Frank Smith Co., Lancaster, N. H.	A	90	A	90
2770	RED TOP ..... C. P. Stevens, Franklin, N. H.	A	90	S	95
2780	RED TOP (*White Mtn.*) ..... H. W. Taylor, Hinsdale, N. H.	A	95	A	90
2774	RED TOP ..... Thompson & Hoague, Concord, N. H.	A	80.5	84	90
2482	RED TOP ..... H. H. Wallace, Wolfeboro, N. H.	A	90	A	85
2428	RED TOP (*Ace*) ..... Webster & Williams, Lisbon, N. H.	A	90	83.5	96
2455	RED TOP (*Ace*) ..... A. A. & C. E. White, Mountainview, N. H.	A	90	81.5	90
2488	RED TOP (*92380*) ..... J. D. Willey & Son, Wilton, N. H.	A	80.5	71	90
2764	RED TOP ..... F. B. Williams, Enfield, N. H.	A	90	77	90
2485	RED TOP (*Pan Amer.*) ..... E. T. Willson, Farmington, N. H.	A	90	78	90
2432	RED TOP (*Durham*) ..... Perley Young, Wolfeboro, N. H.	A	90	76.5	90
2647	RYE (*Spring*) ..... Hill Hdw. & Paint Co., Nashua, N. H.	90.2	98	S	90
2683	RYE (*Spring*) ..... Manchester Hdw. Co., Manchester, N. H.	A	92	69	90
2820	RYE (*Winter*) ..... A. D. Potter & Co., Winchester, N. H.	A	98	A	90
2500	RYE (*Spring*) ..... E. T. Willson, Farmington, N. H.	A	98	A	90
2795	TIMOTHY (*Mastiff*) ..... Abbott Grocery Co., Keene, N. H.	96.7	99.5	S	96
2797	TIMOTHY (*Bison*) ..... Abbott Grocery Co., Keene, N. H.	S	98	S	92
2799	TIMOTHY (*Old Home*) ..... Abbott Grocery Co., Keene, N. H.	A	98.3	S	93
2558	TIMOTHY ..... P. E. Belisle, Hillsborough, N. H.	A	99.5	85.5	95
2505	TIMOTHY ..... Berry & Shorey, Rochester, N. H.	A	99	S	96
2452	TIMOTHY ..... M. B. Blaisdell, Wolfeboro, N. H.	96.5	99.25	S	92
2601	TIMOTHY (*XXX*) ..... J. P. Boucher, Groveton, N. H.	S	99.5	A	95
2737	TIMOTHY (*XXXX*) ..... Boynton & Ellis, Claremont, N. H.	99.5	99.8	A	94
2756	TIMOTHY (*White Mtn.*) ..... Boynton & Ellis, Claremont, N. H.	S	99.85	S	94
2640	TIMOTHY (*Ace*) ..... The Brown Co., Berlin, N. H.	93.4	98	A	93
2444	TIMOTHY (*Pan Amer.*) ..... F. P. Brown, Whitefield, N. H.	96	99.5	A	94
2498	TIMOTHY (*King*) ..... Freeman Carson, Rochester, N. H.	A	99.66	87.5	93
2673	TIMOTHY (*Pine Tree*) ..... W. S. Cass, Suncook, N. H.	98.5	99.6	88.5	95
2711	TIMOTHY ..... Charlestown Grain Co., Charlestown, N. H.	A	99.5	78.5	93
2767	TIMOTHY ..... D. A. Chase & Son, Sunapee, N. H.	S	99	S	94
2650	TIMOTHY (*Pine Tree*) ..... Ford Chase, Henniker, N. H.	98.5	99.5	A	94

A—Above
S—Satisfactory.

SEED EXAMINATION, 1920—*Continued.*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer.	Purity.		Germination.	
		Found.	Guaranteed.	Found.	Guaranteed.
2595	TIMOTHY (*Pine Tree*) ..... Clark & Cheeney, No. Stratford, N. H.	98.5	99	A	94
2562	TIMOTHY ..... C. W. Coolidge, Jr., Henniker, N. H.	A	99.5	84.5	94
2559	TIMOTHY (*Pine Tree*) ..... W. E. Cram, Antrim, N. H.	A	99.5	88	94
2807	TIMOTHY (*Ace*) ..... J. Cushing Co., Keene, N. H.	A	98	S	93
2838	TIMOTHY ..... Walter S. Dole, Concord, N. H.	A	97.7	A	93
2609	TIMOTHY (*Herald*) ..... Edson & Kinne, Littleton, N. H.	A	98	81.5	90
2622	TIMOTHY (*White Mtn.*) ..... Edson & Kinne, Littleton, N. H.	97.5	99	S	94
2633	TIMOTHY (*Gold Medal*) ..... Edson & Kinne, Littleton, N. H.	A	99	79	96
2635	TIMOTHY (*Pine Tree*) ..... K. D. Edwards, Colebrook, N. H.	91.5	98	S	93
2761	TIMOTHY ..... J. C. Emons, Potter Place, N. H.	A	99.5	S	95
2551	TIMOTHY (*King*) ..... W. D. Fogg, Hancock, N. H.	S	99.6	84	93
2530	TIMOTHY (*Pan Amer.*) ..... Eugene Foss, Rochester, N. H.	A	99.5	S	94
2824	TIMOTHY (*White Mtn.*) ..... D. A. & H. D. Gee, Winchester, N. H.	99.6	..	31.5	95
2731	TIMOTHY ..... L. W. Gile, Newport, N. H.	A	99	85	94
2620	TIMOTHY ..... John Goebel & Co., Berlin, N. H.	S	99	A	95
2550	TIMOTHY ..... Goodnow & Derby, Peterboro, N. H.	A	90.5	49.5	94.5
2814	TIMOTHY (*Pan Amer.*) ..... Goodwin Bros., East Jaffrey, N. H.	98.8	99.5	A	90
2815	TIMOTHY (*Gold Medal*) ..... Goodwin Bros., East Jaffrey, N. H.	S	99	A	94
2651	TIMOTHY (*Pan Amer.*) ..... Haseltine & Caldwell, Milford, N. H.	A	98	83.5	94
2726	TIMOTHY (*White Mtn.*) ..... C. W. Hildreth & Son, Lebanon, N. H.	99.5	99.85	85	94
2646	TIMOTHY (*Pan Amer.*) ..... Hill Hdw. & Paint Co., Nashua, N. H.	99	99.5	S	94
2461	TIMOTHY (*XXX*) ..... Holbrook Grocery Co., Woodsville, N. H.	97	99.6	S	95
2473	TIMOTHY (*White Mtn.*) ..... Holbrook Grocery Co., Woodsville, N. H.	S	99.85	S	94
2475	TIMOTHY (*XX*) ..... Holbrook Grocery Co., Woodsville, N. H.	96	98	S	92
2801	TIMOTHY (*XXX*) ..... Holbrook Grocery Co., Keene, N. H.	99	99.6	S	95
2802	TIMOTHY (*White Mtn.*) ..... Holbrook Grocery Co., Keene, N. H.	99.6	99.85	S	94
2841	TIMOTHY (*Pine Tree*) ..... Hopkins Bros. & Belcher, Greenfield, N. H.	A	99.5	S	92
2593	TIMOTHY (*Durham*) ..... Jackson, Durgin Co., Littleton, N. H.	A	98	A	95
2598	TIMOTHY (*Pan Amer.*) ..... Jackson, Durgin Co., Littleton, N. H.	A	90.5	A	90
2634	TIMOTHY (*White Mtn.*) ..... Jackson, Durgin Co., Littleton, N. H.	A	98	14	97
2610	TIMOTHY (*Pine Tree*) ..... C. H. Jameson, Colebrook, N. H.	A	96	S	95
2538	TIMOTHY (*Pan Amer.*) ..... C. L. Jenness, Dover, N. H.	S	99.5	24	94

A—Above
S—Satisfactory.

SEED EXAMINATION, 1920—*Continued.*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer.	Purity.		Germination.	
		Found.	Guaranteed.	Found.	Guaranteed.
2829	TIMOTHY (*Pine Tree*) ..... Keegan & French, Franklin, N. H.	A	99.5	83.5	95
2717	TIMOTHY ..... Lewis Bros., Lebanon, N. H.	99.2	99.8	S	92
2627	TIMOTHY (*Pine Tree*) ..... E. Libby & Sons Co., Gorham, N. H.	A	98	S	90
2688	TIMOTHY (*Pine Tree*) ..... Manchester Hdw. Co., Manchester, N. H.	98.5	99.5	S	97
2736	TIMOTHY (*Pine Tree*) ..... R. T. Martin, Newport, N. H.	A	99	86	95
2509	TIMOTHY (*Pine Tree*) ..... Miller & Rollins, New Durham, N. H.	A	99.6	89.5	95
2658	TIMOTHY ..... J. J. Moreau & Son, Manchester, N. H.	A	94	S	98.5
2454	TIMOTHY ..... L. A. Moulton, Ossipee, N. H.	96.5	98	S	92
2433	TIMOTHY (*Gold Medal*) ..... Moulton & Clark, Lisbon, N. H.	S	99	90.5	96
2440	TIMOTHY (*Pan Amer.*) ..... Moulton & Clark, Lisbon, N. H.	96.5	99.5	S	90
2458	TIMOTHY (*Pan Amer.*) ..... Moulton & Clark, Lisbon, N. H.	96	99.5	12	90
2544	TIMOTHY (*9168*) ..... F. W. Neal, Dover, N. H.	A	99.7	87.5	98
2460	TIMOTHY (*Pan Amer.*) ..... Fred Parker, Lisbon, N. H.	97.2	99.5	S	94
2675	TIMOTHY ..... Wm. F. Peel, Nashua, N. H.	S	99.5	85.5	95
2817	TIMOTHY (*XX*) ..... A. D. Potter & Co., Winchester, N. H.	S	98	81.5	92
2721	TIMOTHY (*Pan Amer.*) ..... Rand, Ball & King, Claremont, N. H.	S	99.51	S	96
2605	TIMOTHY (*Pan Amer.*) ..... I. C. Richardson, Littleton, N. H.	S	99.5	S	94
2434	TIMOTHY (*White Mtn.*) ..... C. C. Ring Co., Whitefield, N. H.	95.5	99	89	98
2597	TIMOTHY ..... A. L. Roberts, Conway, N. H.	A	90	A	90
2517	TIMOTHY (*Pine Tree*) ..... Rochester Grocery Co., Rochester, N. H.	A	99.5	89.5	97
2713	TIMOTHY ..... F. P. Rowell, Newport, N. H.	A	99	54.5	93
2547	TIMOTHY ..... J. H. Seavey, Dover, N. H.	A	99.5	85	94
2833	TIMOTHY (*Gem*) ..... Shepard Bros., Franklin, N. H.	97.2	98	S	95
2848	TIMOTHY (*Bay State*) ..... Shepard Bros., Franklin, N. H.	98	99	S	98
2604	TIMOTHY (*Pine Tree*) ..... H. S. Shoff, No. Stratford, N. H.	97.5	99.5	S	99
2653	TIMOTHY (*Pine Tree*) ..... Silver & Young, Gossville, N. H.	98.5	99.6	88	95
2471	TIMOTHY (*Herald*) ..... Frank Smith Co., Lancaster, N. H.	A	98	A	90
2522	TIMOTHY (*Pan Amer.*) ..... Somersworth Grain Co., Somersworth, N. H.	S	99.5	S	94
2791	TIMOTHY (*Liberty*) ..... F. A. Spaulding, Walpole, N. H.	S	99.5	A	94
2809	TIMOTHY (*Old Home*) ..... F. A. Spaulding, Walpole, N. H.	97.7	98.7	A	93
2600	TIMOTHY (*Herald*) ..... F. B. Spaulding, Lancaster, N. H.	A	98	A	90
2832	TIMOTHY (*Pan Amer.*) ..... C. P. Stevens, Franklin, N. H.	98.7	99.5	A	90

A—Above
S—Satisfactory.

SEED EXAMINATION, 1920—*Continued.*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer.	Purity.		Germination.	
		Found.	Guaranteed.	Found.	Guaranteed.
2836	TIMOTHY (*Pine Tree*) ..... C. P. Stevens, Franklin, N. H.	98.7	99.8	S	95.3
2803	TIMOTHY (*White Mtn.*) ..... H. W. Taylor, Hinsdale, N. H.	A	99.55	S	94
2847	TIMOTHY ..... Thompson & Hoague, Concord, N. H.	98.5	99.6	S	95
2697	TIMOTHY (*Durham*) ..... John B. Varick Co., Manchester, N. H.	97	99.5	S	94
2554	TIMOTHY ..... Walbridge & Taylor, Peterboro, N. H.	99.0	99.5	80.5	94
2467	TIMOTHY ..... H. H. Wallace, Wolfeboro, N. H.	A	93.5	86.5	94
2430	TIMOTHY (*Durham*) ..... Webster & Williams, Lisbon, N. H.	S	99	88.5	96
2456	TIMOTHY (*Ace*) ..... A. A. & C. C. White, Mountainview, N. H.	A	90	S	90
2520	TIMOTHY (*Pine Tree*) ..... J. D. Willey & Son, Milton, N. H.	A	99.6	86	95
2765	TIMOTHY ..... F. B. Williams, Enfield, N. H.	A	99.06	S	95
2502	TIMOTHY (*Pine Tree*) ..... E. T. Willson, Farmington, N. H.	A	98	S	92
2464	TIMOTHY (*Durham*) ..... Perley Young, Wolfeboro, N. H.	98.5	99.5	87.5	94
2644	VETCH (*Spring*) ..... Hill Hdw. & Paint Co., Nashua, N. H.	A	98	A	90
2650	WHEAT (*Spring*) ..... Haseltine & Caldwell, Milford, N. H.	A	98	A	90
2678	WHEAT (*Spring*) ..... Manchester Hdw. Co., Manchester, N. H.	S	99.95	A	97
2659	WHEAT (*Spring Marquis*) ..... J. J. Moreau & Son, Manchester, N. H.	S	99	A	95
2831	WHEAT ..... Shepard Bros., Franklin, N. H.	A	98	S	99
2423	WHEAT (*Spring Marquis*) ..... Frank Smith Co., Lancaster, N. H.	S	99	89.5	97
2705	WHEAT (*Spring*) ..... John B. Varick Co., Manchester, N. H.	A	97	S	92
2546	WHITE CLOVER ..... Fred M. Bunker Est., Dover, N. H.	A	95	A	85
2533	WHITE CLOVER ..... C. L. Jenness, Dover, N. H.	A	97	17	80
2685	WHITE CLOVER ..... Manchester Hdw. Co., Manchester, N. H.	S	96.6	69.5	90
2510	WHITE CLOVER (*16311*) ..... J. Herbert Seavey, Dover, N. H.	A	94.65	A	90
2842	WHITE CLOVER ..... Thompson & Hoague, Concord, N. H.	S	94	84.5	90
2703	WHITE CLOVER ..... John B. Varick Co., Manchester, N. H.	A	97	S	80
2478	WHITE SWEET CLOVER ..... Frank Smith Co., Lancaster, N. H.	S	97	A	90

A—Above
S—Satisfactory.

SEED EXAMINATION, 1920—*Concluded.*

TABLE SHOWING RESULTS OF TESTS AND EXAMINATION OF SAMPLES OF SEEDS SUBMITTED BY THE COMMISSIONER OF AGRICULTURE FROM JULY 1, 1919, TO JULY 1, 1920.

Kind of Seed.	Number.	Purity.				Germination.			
		Highest per cent.	Lowest per cent.	Average per cent.	Standard.	Highest per cent.	Lowest per cent.	Average per cent.	Standard.
Alfalfa	4	99.8	97.5	99.1	98	88.5	34.5	73.3	85-90
Alsike	36	99.9	90.0	97.3	95	100.0	19.5	90.0	75-80
Barley	7	100.0	93.0	98.3	99	98.0	91.0	95.9	90-95
Buckwheat ...	4	99.0	98.2	98.7	99	100.0	91.0	95.5	90-95
Corn	15	100.0	99.0	99.1	99	98.0	41.0	82.5	90-95
Millet	55	99.8	92.5	96.3	99	97.0	45.5	86.5	85-90
Oats	19	100.0	95.0	99.0	99	100.0	90.5	95.7	90-95
Red Clover ..	61	100.0	85.0	97.3	98	100.0	30.0	91.6	85-90
Red Top	59	98.7	81.0	92.6	95	95.5	48.0	82.0	75-80
Rye	4	98.5	90.2	95.7	99	97.0	69.0	87.0	90-95
Timothy	92	99.8	91.5	98.4	98	99.0	12.0	86.5	85-90
Wheat	6	99.9	98.8	99.2	99	99.0	89.0	95.1	90-95
White Clover ..	6	99.8	93.2	97.3	95	93.0	17.0	72.1	75-80
Miscellaneous ..	10								
Total	378								

Summary

As previously suggested, out of the 772 samples sent in to the laboratory by authorized collectors, only 382 were guaranteed. This represents a total of samples guaranteed of 49 per cent, as compared to 48 per cent for the previous year. This variation between years is not sufficient to justify any conclusions as to tendencies which the dealers may manifest toward observing more carefully the purposes and requirements of the state law, but the results of either or both years certainly show that too large a proportion of dealers are not observing the regulations and that more rigorous measures must be put in operation before many negligent seed merchants will take the trouble to conform to the provisions of the seed law.

Two of the guaranteed samples were too small to afford satisfactory tests and two packages were broken in transit. Consequently only 378 official tests are recorded in this bulletin.

Some dealers who apparently post the required guarantees are,

for one reason or another, using erroneous figures. In some cases it may be that their figures are based on tests made by irresponsible persons or organizations which seek to make good impressions for the seeds or for themselves by reporting higher figures than are justified. In relation to this problem, the personnel of the state laboratory is always willing to make official tests free of charge in so far as its equipment will permit. However, it takes time to make these tests, especially when irregularities or low germination make retests advisable or necessary, so that seeds should be sent in some time before the reports are needed. A germination test always takes practically a week's time and some grasses require a month. Further delay may be occasioned by the fact that samples usually come in from all parts of the state at practically the same time in the spring, and as a result our facilities are temporarily overtaxed and the tests cannot be started immediately.

Attention should be called to the fact that the state inspectors found certain dealers who had received their seeds this year in packages properly marked with the guarantees for purity and germination in accordance with the law, but who had poured this seed into other containers, from which it was to be sold, and had neglected to transfer the guarantees. Such a practice is unlawful but easily corrected, as clearly defined in Section 1 of the State law.

A few cases are noted which indicate that dealers are selling old seed under the same guarantee for germination as when the seed was new. This is never a safe practice. All kinds of seeds deteriorate with age, some very quickly and others more slowly. Different conditions of storage are potent causes of variation in germinability. Seed which has been kept from one season to another should always be retested, as neither the wholesaler nor the State Department can assume or expect that old seed will germinate in conformity to a test which was made when the seed was new. Such samples of legume seed, for illustration, as Nos. 2519 and 2497 of red clover, No. 2539 of alsike, No. 2533 of white clover and No. 2540 of alfalfa suggest this practice to the trained observer by their external appearance in some instances as well as by their poor vitality. In one case, the matter of low germination reports was taken up by the wholesalers, who stated that they had not sold said dealer any of the seed in question for two years. Such definite proof as this of the practice of selling old seed under the original guarantees is not always accorded the analysts, but a comparison of any dealer in question with other dealers who handle the same brands of seed satisfactorily may afford strong evidence of poor methods of seed handling to say the least.

To him who sees only the analytical results in these pages we would say again, in conclusion, that occasional discrepancies are of little significance, but uniformly low records for several years or for numerous varieties in any one year are strongly indicative of sources of seed which may ill repay the toil and expense expended in the preparation of a good seed bed.